AMENDMENTS TO THE CLAIMS

Please amend the Claims as indicated below. Additions are shown underlined, and deletions are ~~stricken through~~.

1. (Previously Presented) An endolumenal prosthesis having a lumenal surface and an ablumenal surface, comprising:

a tubular wire support with proximal and distal ends and a central lumen extending therebetween, the wire support comprising at least two axially adjacent tubular segments, each segment comprising a series of proximal and distal bends connected by a length of wire, wherein the wire support is radially compressible into a first, reduced cross sectional configuration for translumenal navigation to a treatment site in a body lumen and self expandable to a second, enlarged cross sectional configuration for deployment at the treatment site in the body lumen; and

a uniform porous tubular ePTFE sheath on the wire support, the tubular sheath having a sheath proximal end region and a sheath distal end region, wherein the sheath is porous and configured to inhibit sufficient cellular ingrowth through the wall of the sheath to permit the formation of a viable neointimal layer on the lumenal surface of the sheath at the sheath proximal and distal end regions.

2. (Original) The endolumenal prosthesis of Claim 1, wherein the ePTFE sheath has a wall thickness of no greater than about 0.2 mm.

3. (Original) The endolumenal prosthesis of Claim 1, wherein the ePTFE sheath has a wall thickness within the range of from about 0.05 mm to about 0.15 mm.

4. (Original) The endolumenal prosthesis of Claim 2, wherein the ePTFE sheath has a wall thickness of about 0.1 mm.

5. (Original) The endolumenal prosthesis of Claim 1, wherein the ePTFE sheath has a density of at least about 0.5 grams per milliliter.

6. (Original) The endolumenal prosthesis of Claim 3, wherein the ePTFE sheath has a density of at least about 0.75 grams per milliliter.

7. (Original) The endolumenal prosthesis of Claim 3, wherein the ePTFE sheath has a density within the range of from about 1.1 to about 1.5 grams per milliliter.

8. (Original) The endolumenal prosthesis of Claim 1, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

9. (Original) The endolumenal prosthesis of Claim 3, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

10. (Original) The endolumenal prosthesis of Claim 6, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

11. (Original) The endolumenal prosthesis of Claim 2, comprising at least three segments.

12. (Original) The endolumenal prosthesis of Claim 2, comprising at least five segments.

13. (Original) The endolumenal prosthesis of Claim 2, wherein each segment comprises from about 4 proximal bends to about 12 proximal bends.

14. (Original) The endolumenal prosthesis of Claim 2, wherein the tubular sheath comprises two membranes, a first membrane along the lumenal surface of the wire support and a second membrane along the exterior surface of the wire support, such that at least a portion of the wire support is embedded between the first and second membranes.

15. (Original) The endolumenal prosthesis of Claim 2, wherein at least the first and second axially adjacent tubular segments are joined by at least one folded link extending therebetween.

16. (Original) The endolumenal prosthesis of Claim 15, wherein the first tubular segment includes two side-by-side legs with a first apex thereon and the folded link is formed by folding around the first apex around a second apex formed on the second tubular segment.

17. (Original) The endolumenal prosthesis of Claim 1, wherein the ePTFE sheath has a water entry pressure in the range of from about 10 psi to about 24 psi.

18. (Previously Presented) A bifurcated endolumenal prosthesis having a lumenal surface and an ablumenal surface, comprising:

a proximal wire support section having a proximal end, a distal end and a central lumen extending therethrough, the proximal support section comprising at least two axially adjacent tubular segments comprising a series of distal and proximal bends connected by struts;

a first wire branch section at the distal end of the proximal support;

a second wire branch section at the distal end of the proximal support; and

a uniform porous membrane carried by the wire support section, the membrane having a membrane proximal end region and membrane distal end regions and configured to inhibit cellular growth through the membrane sufficient to enable the formation of a thin, viable neointimal layer on the lumenal surface of the membrane at least at the membrane proximal and distal end regions.

19.-30. (Canceled)

31. (Previously Presented) A prosthetic vascular graft, comprising:

an expandable tubular wire support;

a uniform porous, tubular ePTFE layer carried by the support, the ePTFE layer having:

a wall thickness of less than about 0.15 millimeters;

an average density of greater than about 0.75 grams per milliliter; and

an average distance between nodes in the range of between about 6 to about 80 microns;

so that the uniform porous ePTFE layer prevents the formation and nourishment of a viable neointimal layer therethrough along portions of the tubular ePTFE layer's axial length, which are in contact with a vessel wall.

32. (Previously Presented) An artificial vascular prosthesis comprising an enlargeable support structure having an expanded, uniform porous, polytetrafluoroethylene layer thereon, the layer having a microstructure consisting of nodes interconnected by fibrils which prevents tissue ingrowth through portions of the layer that contact a vessel wall when the

prosthesis is implanted to span an aneurysm, in which either the density is greater than about 1 gram per milliliter or the wall thickness is less than about 0.2 millimeters, or both.

33. (Previously Presented) A method of treating a patient, comprising:

providing an implantable tubular prosthesis, having a uniform porous ePTFE layer thereon, the porous ePTFE layer having a proximal end and a distal end;

positioning the prosthesis across a defect in a vessel such that a contacting portion of a first side of the layer is in contact with the wall of the vessel; and

inhibiting formation of a viable neointima on a second side of the layer throughout the contacting portion, nourished through the layer;

wherein said inhibiting comprises providing the ePTFE layer with a density of greater than about 0.75 grams per milliliter and a wall thickness of less than 0.2 mm.

34. (Previously Presented) An endolumenal prosthesis having a lumenal surface and an ablumenal surface, comprising:

a tubular wire support with proximal and distal ends and a central lumen extending therebetween, the wire support comprising at least two axially adjacent tubular segments, each segment comprising a series of proximal and distal bends wherein the wire support is radially compressible into a first, reduced cross sectional configuration for translumenal navigation to a treatment site in a body lumen and self expandable to a second, enlarged cross sectional configuration for deployment at the treatment site in the body lumen; and

a uniform porous, tubular ePTFE sheath on the wire support, the porous, tubular sheath having a proximal end and a distal end and being configured to have a water entry pressure of at least about 10 psi, and wherein the uniform porous tubular sheath is configured to inhibit the formation of a viable neointimal layer on the lumenal surface of the sheath through the wall of the sheath.

35. (Original) The endolumenal prosthesis of Claim 34, wherein the ePTFE sheath has a wall thickness of no greater than about 0.2 mm.

36. (Original) The endolumenal prosthesis of Claim 34, wherein the ePTFE sheath has a wall thickness within the range of from about 0.05 mm to about 0.15 mm.

37. (Original) The endolumenal prosthesis of Claim 35, wherein the ePTFE sheath has a wall thickness of about 0.1 mm.

38. (Original) The endolumenal prosthesis of Claim 34, wherein the ePTFE sheath has a density of at least about 0.5 grams per milliliter.

39. (Original) The endolumenal prosthesis of Claim 36, wherein the ePTFE sheath has a density of at least about 0.75 grams per milliliter.

40. (Original) The endolumenal prosthesis of Claim 36, wherein the ePTFE sheath has a density within the range of from about 1.1 to about 1.5 grams per milliliter.

41. (Original) The endolumenal prosthesis of Claim 34, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

42. (Original) The endolumenal prosthesis of Claim 36, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

43. (Original) The endolumenal prosthesis of Claim 39, wherein the ePTFE sheath has a plurality of nodes, and the average distance between nodes is within the range of from about 6 microns to about 80 microns.

44. (Previously Presented) The endolumenal prosthesis of Claim 34, wherein the tubular sheath is further configured to inhibit the formation of a viable neointimal layer on the lumenal surface of the sheath at the distal end.

45. (Previously Presented) The endolumenal prosthesis of Claim 34, wherein the proximal end comprises a single opening and the distal end comprises two openings, such that the prosthesis is configured for implantation at a vascular bifurcation.